Center for Electrocatalysis, Transport Phenomena, and Materials for Innovative Energy Storage

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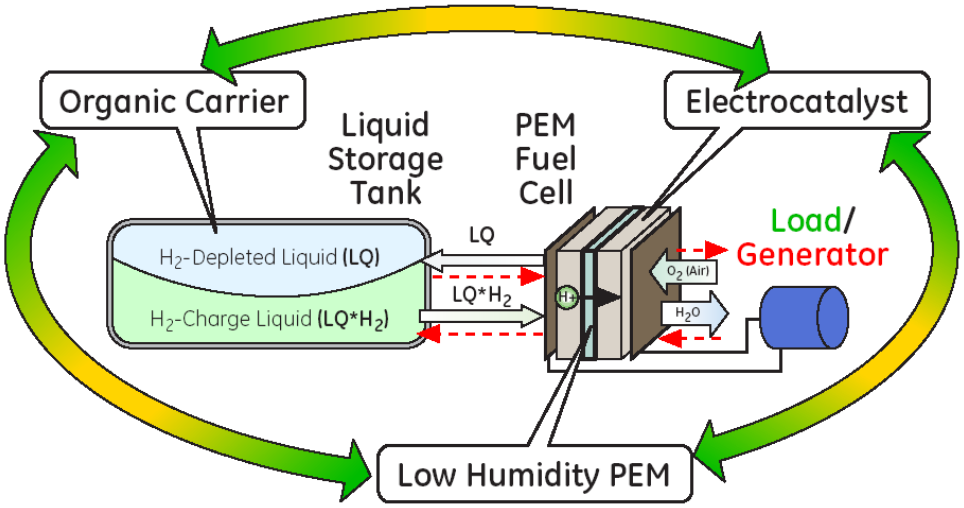
Electrocatalysis, transport phenomena and membrane materials research aimed to three novel components of an entirely new high-density energy storage system combining the best properties of a fuel cell and a flow battery: organic carriers, electro(de)hydrogenation catalysts, and compatible PEM



RESEARCH PLAN AND DIRECTIONS

Challenges: - Effective electrocatalysts for (de)hydrogenation of organic carriers
- Transport of protons and electrons
- Compatibility of cell components

Approaches: combination of modeling, synthetic chemistry and electrochemistry

Unique aspects: using PEM fuel cell with organic carriers instead hydrogen gas

Potential outcome: high-density mobile and stationary energy storage systems

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